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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/674,558	01/10/2001	Juha Karna	PM274429	8663

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EXAMINER

FERRIS, DERRICK W

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/674,558

Applicant(s)

KARNA ET AL.

Examiner

Derrick W. Ferris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 December 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1.3</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-3, 5-11, 13-15 and 17-23** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,526,039 B1 to *Dahlman et al.* (“*Dahlman*”).

As to **claim 1**, data is conveyed on at least one coded channel transmitted by at least one neighbor base station via a serving base station to the terminal in the form of a list. In particular, see e.g., figure 2 for more than one base station (also see e.g., column 9, lines 40-55) where a source base station (i.e., serving base station) transmits an estimate of RTD between the source base station and each of the base stations on the neighborhood list to a mobile (i.e., terminal), see e.g., column 6, lines 3-18. The mobile, in-turn, transmits an estimate of RTD (i.e., an estimate of symbol timing of each code channel in respect of the timing of the serving base station) along with other information to the base station controller. The mobile (i.e., terminal) uses the information to measure the signal timing of neighborhood base stations, see e.g., figure 5 and column 11, line 54 – column 12, line 40.

As to **claim 2**, the mobile computes an estimate from each base station, see e.g., column 12, lines 1-16.

As to **claim 3**, the base station controller requests data in order to maintain the table, see e.g., column 12, lines 1-16.

As to **claim 5**, either the pilot (i.e., sync channel) or traffic channel can be used, see e.g., column 12, line 25.

As to **claim 6**, although two base stations are recommended, more base stations such as three can be used to improve accuracy, see e.g., column 9, lines 40-55.

As to **claim 7**, the base station controller is part of the fixed network, see e.g., column 12, lines 1-16.

As to **claim 8**, see e.g., column 11, lines 54-66.

As to **claim 9**, all values that fall outside the threshold are disregarded, see e.g., column 7, lines 7-21.

As to **claim 10**, the information is propagated via the list from the source base station, see e.g., column 6, lines 1-17.

As to **claim 11**, the system is asynchronous such that the symbols for different base stations are not all transmitted at the same time, see e.g., column 11, lines 54-67.

As to **claim 13**, see similar rejection to claim 1. In particular, the method can be applied to a radio system.

As to **claim 14**, see similar rejection to claim 2.

As to **claim 15**, see similar rejection to claim 3.

As to **claim 17**, see similar rejection to claim 5.

As to **claim 18**, see similar rejection to claim 6.

As to **claim 19**, see similar rejection to claim 7.

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As to **claim 20**, see similar rejection to claim 8.

As to **claim 21**, see similar rejection to claim 9.

As to **claim 22**, see similar rejection to claim 10.

As to **claim 23**, see similar rejection to claim 11.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 4 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,526,039 B1 to *Dahlman et al.* ("*Dahlman*") in view of U.S. Patent No. 6,226,317

B1 to *Bruckert et al.* ("*Bruckert*").

In making a proper obviousness rejection under MPEP 706.02(j), the examiner will address the following four steps:

- a) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line numbers where appropriate;*
- b) the difference of differences in the claim(s) over the applied cited references;*
- c) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter; and*
- d) an explanation why one skilled in the art at the time of the invention was made would have been motivated to make the proposed modification.*

As such to **claim 4**, for step (a) *Dahlman* discloses limitations in the base claim.

For step (b) *Dahlman* is silent or deficient to the further limitation selecting for data transmission code channels (CH1 to CH3) which have the highest transmission

power in the direction of the base station serving the terminal. In particular, *Dahlman* does not discuss transmission power.

*Bruckert* teaches the further recited limitation above at e.g., column 4, line 17-35.

For step (c), the proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Dahlman* by clarifying that it is known in the art to select a channel able to transmit at maximum power to avoid at least interference.

In order to establish a prima facie case of obviousness for step (d), three basic criteria must be met. The three criteria according to MPEP 706.02(j) are as follows:

*First there must be some suggestion or modification, either in the reference(s) themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.*

As such, for step (d) examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the further limitation selecting for data transmission code channels (CH1 to CH3) which have the highest transmission power in the direction of the base station serving the terminal. In particular, the motivation for modifying the reference or to combine the reference teachings would be reduce interference by transmitting the location information on a channel with a higher power. In particular, *Bruckert* cures the above-cited deficiency by providing a motivation found at e.g., column 4, line 17-35. Second, there would be a reasonable expectation of success since both reference teach CDMA and determining location based on pilot

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information transmitted in a time slot in particular. Thus the references either in singular or in combination teach the above claim limitation(s).

As to **claim 16**, see similar rejection to claim 4.

5. **Claims 12 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,526,039 B1 to *Dahlman et al.* ("*Dahlman*") in view of U.S. Patent Application 2003/0210667 A1 to *Zhengdi et al.* ("*Zhengdi*").

In making a proper obviousness rejection under MPEP 706.02(j), the examiner will address the following four steps mentioned previously.

As such to **claim 12**, for step (a) *Dahlman* discloses limitations in the base claim.

For step (b) *Dahlman* is silent or deficient to the further limitation decoding the received spreading coding of the signal of the code channel, multiplying the signal by a predetermined symbol sequence to generate an estimate of the impulse response of the channel and measuring the timing of the received signal by coherently averaging the estimates of the impulse response.

*Zhengdi* teaches the further recited limitation above at e.g., paragraph 0050 at page 3.

For step (c), the proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Dahlman* by clarifying that it is known in the art to estimate the impulse response as part of coherent averaging.

As such, for step (d) examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the further limitation decoding

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the received spreading coding of the signal of the code channel, multiplying the signal by a predetermined symbol sequence to generate an estimate of the impulse response of the channel and measuring the timing of the received signal by coherently averaging the estimates of the impulse response. In particular, the motivation for modifying the reference or to combine the reference teachings would be to improve the estimate of the impulse response of a period of time or time slots. In particular, *Zhengdi* cures the above-cited deficiency by providing a motivation found at e.g., paragraph 0050 at page 3. Second, there would be a reasonable expectation of success since channel estimation is based on CDMA. Thus the references either in singular or in combination teach the above claim limitation(s).

As to **claim 24**, see similar rejection to claim 12.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.




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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Derrick W. Ferris  
Examiner  
Art Unit 2663

  
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SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600 7/9/04